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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,378	12/10/2001	L. W. Wu		8271

7590 08/19/2004  
Wen-Chiang Huang  
2902 28th Ave, SW  
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EXAMINER

MAYEKAR, KISHOR

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/006,378

**Applicant(s)**

WU ET AL.

**Examiner**

Kishor Mayekar

**Art Unit**

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-15 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102 and USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 4-9 and 11-15 stand rejected under 35 U.S.C. 102(e) as being clearly anticipated by LIU et al. (6,398,125), for reasons as of record.
3. Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over LIU '125, for reasons as of record.
4. Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over LIU '125 in view of LEMELSON (5,628,881), for reasons as of record.
5. Claims 1, 4 and 6-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over PARKER et al. (5,514,349) in view of ARAYA et al. (4,610,718), for reasons as of record.

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6. Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over PARKER '349 as modified by ARAYA '718 as applied to claims 1, 4 and 6-14 above, and further in view of ZURECKI et al. (5,294,242), for reasons as of record.

7. Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over PARKER '349 as modified by ARAYA '718 as applied to claims 1, 4 and 6-14 above, and further in view of LEMELSON '881, for reasons as of record.

*Allowable Subject Matter*

8. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: In the last Office action, the examiner has indicated that because the prior art references do not disclose in a system for synthesizing a nano-scaled powder material the provision of the recited reservoir in combination with other recited structures of claim 1.

*Response to Arguments*

10. Applicant's arguments filed 3 June 2004 have been fully considered but they are not persuasive.

In response to Applicant's argument that the present invention is different and patently distinct from LIU '125 because "the system operates in such a way that the plasma arc provides sufficient heat ... to vaporize ... two wires", the examiner finds this is to be unpersuasive. First, there is no support anywhere in the specification for the argument of heat in the temperature range of 6,000 °C to 20,000 °C. Second, since the claims recite "means plus function", hence invoke the 6<sup>th</sup> paragraph of 35 USC 112 and since the specification discloses that the "arc 80, being an ultra-high temperature (up to 6000 °C), functions to melt and vaporize the wire tips to form nano-scaled vapor cluster" (lines 8-10 in page 13), LIU '125's arc 10 inherently possesses the recited means plus function.

As to the argument that LIU '125 "did not suggest that the arc device was applicable to the production of nano-sized metal compounds or ceramics", since the claims recite metal as one of the material, the claims stand rejected over LIU '125.

In response to Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

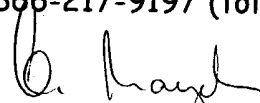
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kishor Mayekar  
Primary Examiner  
Art Unit 1753